# The Association for the Conservation of Energy (ACE) Response to the Renewable Heat Incentive

## Consultation on the proposed RHI financial support scheme

**Please use the table below as a template to respond to the consultation. It will help us to record and take account of your views.**

**Also, please provide evidence for your answers and comments where possible.**

**Introduction to the views of ACE**

The Association for the Conservation of Energy is a lobbying, campaigning and policy research organisation, and has worked in the field of energy efficiency since 1981. Our lobbying and campaigning work represents the interests of our membership: major manufacturers and distributors of energy saving equipment in the United Kingdom. Our policy research is funded independently, and is focused on three key themes: policies and programmes to encourage increased energy efficiency; the environmental, social and economic benefits of increased energy efficiency; and organisational roles in the process of implementing energy efficiency policy.

We welcome this opportunity to respond to this consultation.

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**Summary**

1. ACE strongly supports Government's move towards a low carbon economy, and European policies such as the Energy Performance of Buildings Directive (EPBD) and the Renewables Directive that help to achieve this. Any credible policy to promote renewable energy, which necessitates financial support, must at its heart ensure that energy is used as efficiently and effectively as possible. This ensures that only the renewable energy that is required is supported, keeping costs low, energy affordable, businesses productive and improving our security of supply.

2. Government currently has several priorities to tackle in this arena, including climate change, energy security, fuel poverty, and energy costs and productivity, and several objectives to achieve including meeting the carbon budgets, the 15% renewable

energy target, alleviating fuel poverty by 2016, and delivering 7 million 'eco-upgrades' by 2020 and 25 million by 2030. Renewable Energy and Energy Efficiency can work effectively together to tackle these problems and achieve the objectives but when designed poorly, policies involving renewables can have a hugely detrimental effect.

3. Unfortunately the Renewable Heat Incentive, as proposed in this consultation, embodies an ill thought through policy that exclusively pursues one target – that in the Renewables Directive - hindering (or worse, reversing) progress towards others. In its present form, the policy will not cut carbon to anywhere near its potential, will do very little to improve the UK's security of energy supply, ignores the opportunity to twin with 'eco-upgrades', may actually reduce the energy performance of the building stock, and has the potential to hugely increase the number of households in fuel poverty. ACE strongly warns Government of the adverse effect that introducing the RHI in this form will have, and urge them to look at the design of the policy again, particularly at the four main issues below.

4. Firstly, it is ludicrous that the policy will allow efficient gas boilers (potentially subsidised recently by the taxpayer as part of the scrappage-scheme) to be replaced by heat pumps or biomass boilers. This replacement of heating technology reduces the energy performance of a property - lowering its EPC rating, saves a relatively small amount of carbon but increases fuel bills for the building in question, not to mention the costs borne by the taxpayer or energy consumers. Allowing gas boilers to be replaced in this way will create a hugely inefficient and ineffective scheme. Heat pumps and biomass boilers have a role to play, but if Government is serious in cutting carbon, their role should be in properties that are not on the gas network where expensive carbon intensive fuels are currently in use.

5. Secondly, the consultation rejects a requirement for mandatory energy efficiency standards in buildings that receive the RHI. Relying on 'deeming' to incentivise energy efficiency investment is unlikely to succeed and sends entirely this wrong message to householders: 'You'll be paid for the important renewables but the energy efficiency measures are optional'. Instead, ACE strongly favours a voucher scheme which takes the place of the initial years' RHI payment and can only be redeemed against the installation cost of the lower cost energy efficiency measures. Government must also require that properties requiring more expensive insulation measures like solid wall insulation are insulated if beneficiaries are to receive the RHI payment, since these properties should receive insulation over the coming years as part of Governments HEM strategy. To assist these households to afford the insulation, ACE suggests the RHI payment be based on the heating requirement without insulation, but that the system installed is appropriately sized based upon an insulated property. This will give these households a greater ROI and a lower upfront capital cost, both which can be used to cover the cost of the insulation. Households that fail to implement this within two years will have their RHI payment revoked.

6. Thirdly, for the larger non-domestic recipients of the RHI, ACE is astonished that Government sees the risk of payment based on metering leading to over-generation

as 'low'. It will be in the interests of any profit-seeking business to run their systems as long as possible to maximise their returns. Such a situation must be avoided: whilst it will notionally still contribute to the 15% renewables target, it clearly brings no security of supply or carbon saving benefits, but merely increases the overall costs of the scheme.

7. Finally, but most importantly, it is absurd that Government is consulting on a proposal without setting out how they intend to pay for it. Here the choices are stark: fund a programme through general taxation and have a programme that is generally progressive in nature (albeit with little access to those on low incomes); or through the costs being passed on in energy bills. If the latter option is chosen, the impact assessment estimates the increase in domestic energy bills up to 21%[1] within the decade. This would be unacceptable, given the fact that few fuel poor households are likely to have the capital to be able to access the scheme but will pay for it in their bills, unless the RHI is accompanied by a credible national fuel poverty programme that fuel poverty proofs all homes.

[1] CLG (2010) *Impact Assessment of the Renewable Heat Incentive scheme for consultation in January 2010.* Table 8

## INTRODUCTION

**Q1: Are there any issues relevant to the design or operation of the RHI that are not addressed in this consultation document? If so, how should we deal with them?**

**Yes**

**Comments:**

**In General**

ACE has serious concerns that the design of the RHI reflects siloed policy making at its worst. At a time when the Department for Energy and Climate Change (DECC), responsible for the RHI consultation, has itself just released its Household Energy Management Strategy (HEM) which sets challenging targets for high levels of energy efficiency delivered through whole house packages; when the same department is responsible for reaching challenging carbon emissions reductions targets by 2020 and 2050; and that same department is about to fail on its legally binding commitment to eradicate fuel poverty in all vulnerable households by this year and is getting further away from a similar target to eradicate fuel poverty in all households by 2016, it is astonishing to see that the RHI design actively ignores if not hinders all of these other policy priorities.

As is outlined more fully in our answers to the questions below, the current RHI design:

- Gives no consideration to maximising carbon savings generated from the programme and promotes expensive carbon saving
- Opens up the possibility for placing considerable extra costs onto energy bills (increasing bills by 14-20%[2]) therefore worsening the experience of and increasing levels of fuel poverty
- Undermines the whole house refurbishment approach
- Undermines the principle in household energy efficiency refurbishment of reducing demand first
- Potentially incentivises measures to be installed that reduce the energy rating of a building

The RHI as it stands appears to promote renewable energy generation to the exclusion of any other consideration. What we should expect from a Department with the multiple priorities outlined above is not a policy that promotes one priority at all costs, but one that is appropriate and consistent with other energy and social equity priorities – and at a minimum does not obstruct progress on other policies and targets.

At a consultation event hosted by the Energy Efficiency Partnership for Homes (EEPH) on 19th March 2010, Jo Greasley acknowledged that the RHI "is not the most cost-effective way of saving carbon", stating that the primary goal was to achieve the targets set for the UK in the Renewables Directive. What is pertinent is whether the RHI is the most cost-effective way of meeting even this target? As highlighted in our responses to the questions

[2] DECC (2010) RHI consultation Impact Assessment

in this consultation, it is patently clear that this is not the case. There is no evidence in the consultation documentation that any other options or combination of options has been considered. The most obvious approach (one consistent with other DECC priorities) would be an intensive programme of energy efficiency to reduce the overall energy denominator and therefore reduce the absolute amount of renewable energy that would be required to meet the 15% target, in combination with a smaller and less costly renewables promotion programme.

In addition to the alarming disregard for other policy objectives in the design of the RHI, there are a number of practical issues central to the design and operation of the RHI that this document fails to address. We are astonished that DECC can seek informed views from stakeholders without illustrating some basic aspects of the new initiative.

**Funding**

Omitted from the consultation document is any indication of how the RHI might be funded. ACE finds it impossible to properly engage with the proposals set out in the consultation for the introduction of an expensive programme whilst being given no indication as to who will be paying for it and how.

The document promises announcement of the funding route in the Budget 2010, due to be delivered during the consultation period. This promise was reiterated by Jo Greasley of DECC at the EEPH consultation event on 19th March 2010. However, when the budget was announced on Wednesday 24th March, no mention of the RHI funding source was made.

The total cumulative cost of the RHI is estimated to be £36bn by 2020, as revealed by Jo Greasley of DECC at the EEPH event on 19th March. This is an incredibly expensive programme as compared to the other programmes – the FIT is expected to cost £8.6bn cumulatively to 2030 and CERT at £2.8bn over 3 years. It is estimated to add up to 21% to energy customer's bills within the decade, if the costs are routed through energy suppliers.

The consequences of such a large programme cost, if passed back through energy bills rather than taxation, are significantly different. The existing energy supplier run programmes promoting energy efficiency have been widely hailed to be regressive.[3] Proportionally more costs are passed on to low income customers who are more likely to be low energy using customers,[4] whereas national taxation is inherently progressive in design. The passing of costs back to consumers in a regressive fashion is made more unacceptable given the nature of the RHI, which provides revenue support rather than capital grants or low interest loans, as low income householders without access to upfront capital will have limited access to the benefits of the scheme.

Government estimates that 62tWh of the expected 73 tWh of energy from the RHI will be generated by the non-domestic sector (Jo Greasley, DECC, 19th March 2010). Another major consideration related to the funding of this Initiative is how much of the overall cost would

[3] Boardman, B. (2010) Fixing Fuel Poverty. Earthscan

[4] Baker, W and White, W. (2008) Towards Sustainable Energy Tariffs. A report to the National Consumer Council by the Centre for Sustainable Energy. Available at: http://www.cse.org.uk/downloads/file/pub1111.pdf

be paid for by taxpayers (if funded through taxation) or domestic customers (if paid for through energy bills). If the funding route is general taxation then questions must be raised around why taxpayers should pay commercial entities a revenue to generate their own heat and reduce their costs.

If the funding route is energy bills, then consultees need some kind of clarification as to how the domestic and non-domestic sections of the programme costs will be disaggregated and charged back. Within a programme whose fundamental design sees all consumers paying in order for a fortunate few to benefit, it is essential to clarify whether individual householders will also be supporting the 85% of the programme costs that will be passed as revenue to the commercial sector. Without this information it is impossible to properly engage with the proposals for the RHI in a fully informed manner.

The clear objective of the RHI is to promote renewable heat generation to meet the target set in the EU Renewables Directive, which requires the UK to generate 15% of its energy from renewable sources by 2020. The design of the RHI places this target in a privileged position rather than as it should be set within a policy landscape that contains equally important and challenging carbon reduction targets, energy efficiency priorities and arguably more important legally binding fuel poverty eradication targets. Informed stakeholders, invited by DECC to respond to this consultation, must find it difficult to support a scheme promoting renewables generation if it works in contradiction to other national objectives.

Given no indication of one of the most important structural elements of the scheme – its funding mechanism – these informed stakeholders will find it impossible to consider its wider impacts.

**Fuel Poverty**

The consultation document acknowledges that there is nothing in the structure, as presented, of the RHI that allows easy access for those living in fuel poverty (although they are very likely to be paying richly for it). The consultation promises that Government will consult later in the year on measures to help low-income households to take advantage of the RHI. If proposed in conjunction with a serious, comprehensive fuel poverty programme that fuel poverty proofs the entire housing stock the RHI proposals, might be acceptable. But it is the absence of any such proposal that causes concerns.

This is a major and unacceptable gap in the consultation documentation and the design of the RHI. Fuel poverty is an incredibly serious and rapidly increasing problem that Government is legally bound to address. The introduction of an expensive programme, possibly (probably) to be paid for through fuel bill rises of up to 21%[5] has to be considered in terms of its impact on fuel poverty. The efficacy of the RHI can only be considered if the extent and appropriateness of the measures to limit its negative impact on levels of fuel poverty can be assessed – which they cannot. as they are entirely absent.

ACE cannot stress strongly enough the importance of Government's responsibility to assist

[5] DECC (2010) RHI consultation Impact Assessment. Table 8

those currently living in fuel poverty, and not worsen their situation by directing the cost of Government programmes through further bill increases to be inflicted in an unregulated fashion.

Government's programmes to address the problem of fuel poverty, namely the Winter Fuel Payment and Warm Front have proved to be woefully inadequate to stem the increase in numbers of households falling into fuel poverty, let alone begin to reduce those numbers. According to the most recent official DECC fuel poverty figures available, fuel poverty rose between 2006 and 2007 by 0.5 million, yet in the year 2006-7 Warm Front only assisted 253,000 households (and not necessarily removing all of these households from fuel poverty) giving an indication of the inadequacy of the programme to address the problem. The new programme recently introduced by Government, CESP, is only a pilot intending to help 90,000 households over 3 years (30,000 households a year), so will do little to seriously address the issue.

Given this incredible mismatch between the size of the problem presented by fuel poverty and the measures in place to address it, ACE calls on Government to take much more seriously the consequences of introducing yet another programme that will (most likely) put further pressure on fuel bills and worsen the fuel poverty situation in Britain.

**Replacement of efficient gas boilers**

Clear indication of this initiative's single-minded attention to delivering renewable energy generation at the expense of all other national energy priorities is the allowance in the scheme design for highly efficient gas boilers to be replaced with renewable heat generating technology.

The many reasons why the replacement of any gas boiler installed since 2004 (and therefore highly efficient) with the technologies supported under the RHI must not be promoted are that:

- The SAP of the dwelling would go down, giving the property a worse energy rating
- Some of the new technologies rely on more expensive fuels (electricity and biofuels) and therefore lead to a rise in energy bills.
- In a situation where landlords have control over the heating system installation and receive the RHI payment, there is an overt incentive to remove an efficient gas boiler and install a less suitable renewable technology heating system, raising the tenant's fuel bills whilst providing a significant return to the landlord.
- A much lower level of $CO_2$ saving will be made when a heating system is converted from a gas fired efficient boiler to a renewable energy technology than from a non-net gas heating fuel. To maximise $CO_2$ savings from the RHI the conversion of non-gas fuel heating systems must be promoted.

**Therefore ACE urgently calls for the RHI to be made available only to those properties that do not have a gas connection and in which the replacement of the heating system does not reduce the SAP rating of the property.** It is essential that efficient gas boilers are not replaced as the main heating system with the renewable technologies promoted under the RHI (this does not exclude the possibility of a renewable technology supporting the existing

efficient gas fired heating system, for example solar thermal providing base water heating). Government's own figures (Appendix 1) illustrate that 29% of the UK's heat comes from fuels that are neither gas nor renewable. This reveals that there are more than enough properties and businesses using non-net gas that could take up the RHI to meet the 15% renewables target, with a far greater amount of carbon being saved.

**Compliance**

As already acknowledged in this response, the RHI is an expensive programme, and as acknowledged by DECC officials "not necessarily the most cost-effective way of saving carbon" (Jo Greasley, DECC 19th March 2010). It is also acknowledged that it will benefit a few but be paid for by all (if paid for through fuel bills). The RHI therefore is a programme that runs a high risk of falling into disrepute if it is not effective or is abused. It is essential that the programme works as effectively as possible and is not open to abuse.

ACE is astonished therefore that so little attention is give in the consultation document to how compliance with the scheme will be monitored and guaranteed. Reference is given to ofgem's administration and oversight role and the existence of governance, auditing and assurance procedures in place. In recognition of the fact that the RHI is a completely new design of programme, untried not only in the UK but across Europe, ACE is less than convinced that depending on existing procedures will prove at all reliable.

Ongoing maintenance, repair and efficient use of the technologies receiving support under the RHI is essential. Knowledge of these technologies and how they work has been proved to be very low in the general public[6]. To rely therefore entirely upon a declaration signed by the householder to ensure that technologies that are generating revenue are still working and being used efficiently is glib and naïve.

Much will be riding on the success of the RHI, particularly in the first few years: the reputation of the technologies supported which could be damaged if such technologies do not perform as efficiently as expected; as will the reputation of the Department that introduced such an expensive programme; and with possible adverse impact upon public attitudes to Government-promoted home energy efficiency improvement programmes, such as those being rolled out under the HEM. **ACE, therefore calls for a much more stringent auditing and compliance regime to be put in place by ofgem and a full outline to be provided.**

## CHAPTER 1: ACCESSING THE RHI

**Q2: Do you see any barriers to such financing schemes coming forward? In particular, are there any limitations in leasing and finance legislation that you feel inappropriately restrict the development of RHI financing models?**

[6] EEPH (2010) A Review of the delivery tool used to improve hard to treat homes. A Report by the Association for the Conservation of Energy for the Energy Efficiency Partnership for Homes. Available at: http://www.eeph.org.uk/uploads/documents/partnership/77948-EEPH-DELIVERY%20TOOLS1.pdf

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| **Yes/No**<br><br>**Comments: No comment** |
| **Q3: Do you agree with our proposed RHI registration and payment approach? If not, can you suggest how this approach can be improved?** |
| **Yes/No**<br><br>**Comments: No comment** |
| **CHAPTER 2: ELIGIBILITY AND STANDARDS** |
| **Q4: Do you agree with our approach of requiring products and installers for installations up to 45kW within RHI to be accredited under MCS or equivalent?** |
| **Yes**<br><br>**Comments:** |
| **Q5: Where MCS product and installer certification is extended beyond this limit, do you agree that we should introduce the requirement of using certified installers and equipment for eligibility for the RHI?** |
| **Yes**<br><br>**Comments:** |
| **Q6: Can you provide details of any UK or European standards that should count as equivalent to MCS? How should we recognise these standards for the RHI?** |
| **Comments: No comment** |
| **Q7: Do you agree with our proposed approach to eligibility of energy sources, technologies and sites?** |
| **No**<br><br>**Comments:**<br>ACE strongly calls for limits to be placed on the availability of the RHI for replacement heating systems in those households that already have an efficient gas fired boiler.<br><br>For the reasons outlined under Question 1 and below, the replacement of any gas boiler installed since 2004 with any of the technologies supported under the RHI must not be promoted: |

- The SAP of the dwelling would go down, giving the property a worse energy rating
- Some of the new technologies rely on more expensive fuels (electricity and biofuels) and therefore lead to a rise in energy bills.
- In a situation where landlords have control over the heating system installation and receive the RHI payment, there is incentive to remove an efficient gas boiler and install a less suitable renewable technology heating system, raising the tenant's fuel bills whilst providing a return to the landlord.
- A much lower level of $CO_2$ saving will be made when a heating system is converted from a gas fired efficient boiler to a renewable energy technology than from a non-net gas heating fuel. To maximise $CO_2$ savings from the RHI the conversion of non-gas fuel heating systems must be promoted.

**ACE urgently calls for the RHI to be made available only to those properties that do not have a gas connection (with the exception of solar water heating) and in which the replacement of the heating system does not reduce the SAP rating of the property.** It is essential that gas boilers are not replaced as the main heating system with the renewable technologies promoted under the RHI (this does not exclude the possibility of a renewable technology supporting the existing efficient gas fired heating system, for example solar thermal providing base water heating). Government's own figures (Appendix 1) illustrate that 29% of the UK's heat comes from fuels that are neither gas nor renewable. This reveals that there are more than enough properties and businesses using non-net gas that could take up the RHI to meet the 15% renewables target, with a far greater amount of carbon being saved.

**Q8: Do you agree with our proposed approach on bioliquids? Are you aware of bioliquids other than FAME that could be used in converted domestic heating oil boilers? If so, should we make them eligible for RHI support, and how could we assess the renewable proportion of such fuels to ensure RHI is only paid for the renewable content of fuels?**

**Yes/No**

**Comments: No comment**

**Q9: Do you agree with the proposed emissions standards for biomass boilers below 20MW? If not, why, and do you have any evidence supporting different ones, in particular on how they safeguard air quality?**

**Yes/No**

**Comments: No comment**

**Q10: Do you think the RHI should be structured to encourage energy efficiency through the tariff structure (in particular the use of deeming), or, additionally, require householders to install minimum energy efficiency standards as a condition for benefiting**

**from RHI support?**

**Question 10a : Do you think the RHI should be structured to encourage energy efficiency through the tariff structure (in particular the use of deeming)?**

**YES**

**Question 10b: Do you think the RHI should require householders to install minimum energy efficiency standards as a condition for benefiting from RHI support?**

**YES**

**Comments:**

Given the partially acknowledged risks of metering leading to over generation and waste of heat, ACE prefers the use of deemed heat demand wherever possible (and a combination of metering and deeming where metering is used).

ACE is deeply concerned however that the proposed method for deeming energy need has not yet been decided, and so not consulted upon. Annex 2 of the consultation document sets out a table of illustrative estimates produced by BRE of useful energy for space heating in the domestic sector based on the floor area, number of bedrooms and wall construction of a dwelling. Although the consultation document states that "the exact deeming methodology will be determined post consultation", the inclusion of this table suggests that a buildings deemed energy might be based on a process less rigorous than an individual assessment. To avoid making a mockery of the attempt to link the RHI payment to actual useful heat generation, **the deeming process MUST be based on an in depth individual assessment of the property that uses a widely recognised calculation methodology like the Standard Assessment Procedure (SAP).**

This individual assessment will provide an essential opportunity for the householder to receive independent technical advice regarding which technologies are suitable for the home and the levels of insulation necessary.

It is absolutely essential that the deemed energy need of a building be calculated only **after all cost-optimal energy efficiency measures have been installed**. This requirement is consistent with the requirements of the recast Energy Performance of Buildings Directive (which is equal in status to the Renewables Directive but seems to have been overlooked in the design of the RHI).

The proposed minimum energy efficiency measures to be assumed in the consultation are at best unambitious and arguably idiotic:

- For wall insulation, the proposed requirements only specify cavity wall fill, ignoring the 31% of all English domestic properties that have solid walls. The exclusion of solid wall insulation also fails to consider the off-net gas properties which the consultation document claims are intended to benefit from the RHI. A higher than

average proportion (up to 53%) of homes using off mains gas, heating oil and solid fuels are solid wall in construction.

- For loft insulation the proposals are for 125mm to be assumed in the modelling. The optimal amount of loft insulation recommended by Government is 270mm, well above double that required in the consultation.
- Under floor insulation is totally ignored. Heat pumps (and solar thermal when routed into the heating system) are expected to be heavily rolled out as a result of the RHI. These technologies work most efficiently when the heat is delivered in a water based system of under floor heating, as this requires a lower level of heat consistent with that provided by a heat pump than a radiator based system. If the floor under the heating system is not insulated then much of the heat will dissipate into the ground and the heating system will not produce the desired results for the householder.

It is clear therefore that a wider range of energy efficiency measures than that proposed must be included in the pre-requisites for RHI benefit. **ACE calls for all cost-optimal[7] energy efficiency measures to be planned for and installed and that solid wall insulation and under floor insulation are installed wherever possible and appropriate.**

ACE recognises that the extra costs and disruption caused by the installation of these insulation measures may possibly deter some people from installing the microgeneration measures and taking up the RHI. However, the reasons why microgeneration measures should not be promoted in uninsulated homes and buildings far outweigh the risk of the RHI not delivering against the Renewables Target. If insulation is not required to ensure tariff receipt, the RHI:

- Undermines the basic energy hierarchy of reducing demand first and only then generating to the heat requirements
- Communicates the wrong message to consumers about the importance of insulation and energy saving over generation, at a time when wider Government energy strategy needs householders to reduce demand and install energy efficiency measures at an increasing rate. This miscommunication undermines the whole-house approach being promoted through HEM.
- Misses an essential trigger point for reducing the cost and inconvenience of energy efficiency related changes to the building. Studies[8] have convincingly shown that when performed at trigger points (one of which being installation of other measures or works in the building) the cost of and other barriers to such installations are greatly reduced.
- Encourages oversizing of heat generating equipment which:
    - Stimulates wasteful use of renewable heat which the consultation document claims it must avoid - “we need to ensure that we only support useful renewable heat generation under the RHI” (p29)
    - will no longer be the appropriate size and will need replacement once the house is properly insulated under the proposals outlined in HEM for every

[7] The cost-optimal package of refurbishments is one that provides the greatest return when installation costs are subtracted from the lifetime energy saving.

[8] EST (2008) *Towards a long-term strategy for reducing carbon dioxide emissions from our housing stock*. Available at: http://www.eeph.org.uk/uploads/documents/partnership/EST%20Housing%20Stock%20Report%5B1%5D.pdf

house to receive an eco-refurbishment
    - results in higher than necessary fuel (electricity or biofuels) bills for the householder, which in the case of electricity is both expensive and carbon intensive
    - in the case of heat pumps will put unnecessary strain on the electricity network, particularly in rural areas and could result in the need for extensive infrastructure investment to fortify the network.
- Threatens the reputation of technologies supported under the RHI. The Coefficient of Performance of heat pumps (the efficiency with which they convert electricity into heat) drastically falls in an uninsulated building, which if not explained properly to a building owner will result in underperforming technology and very dissatisfied customers.
- Produces a situation in which fuel costs are higher than expected and negative impacts on levels of fuel poverty. This issue is magnified by the uncertainty of future electricity and biofuel prices.

ACE recognises that requiring all cost-optimal measures to be installed before the payment can commence might prove a barrier to take up of the RHI, so we propose the following two levels of assistance:

Firstly, to ensure the installation of standard (loft, cavity, draught proofing) insulation measures and energy efficiency measures (heating controls and low energy lighting), the first RHI payment should be made in the form of a voucher that within one year may be deemed against the costs of installing the missing standard energy efficiency measures.

Secondly, for less standard energy efficiency measures including double glazing, solid wall insulation and under floor insulation, ACE proposes that mechanisms are incorporated into the programme design in order to offset some of the extra costs that the householder will incur through being required to properly insulate. We propose that the RHI payment is calculated on and paid based on the uninsulated property heat demand, but the householder is required to insulate adequately and the installation is sized to the insulated property. The reduced cost of the installation (resulting from the reduced size) and the increased tariff payment contributes to offsetting the cost of the insulation measures. Householders will also be given access to energy efficiency promotion programmes under HEM (CERT, CESP) that may also provide a contribution to the insulation costs. The measures must be installed within a limited time period (not more than 18 months) after the RHI payment starts to be received; if not installed RHI payments will cease.

**Q11: Can you provide suggestions for how to ensure that developers do not build to lower energy efficiency standards as a result of the RHI in advance of 2013 and 2016 building regulations taking effect?**

**Comments:**

ACE has urged CLG to require that buildings constructed under the 2013 Building Regulations meet the Specification B building fabric standard, set out in the recent Code for

Sustainable Homes Consultation[9] (see page 68). To ensure that developers do not build to a lower energy efficiency standard, all new developments applying to receive RHI payment must meet this building fabric standard with immediate effect.

## CHAPTER 3: TARIFFS

**Q12: Do you agree with our proposals on where we should meter and where we should deem to determine an installation's entitlement to RHI compensation?**

**No**

**Larger installations**

Relying on metering of heat generation alone from larger installations to calculate the RHI payment is open to the abuse of over-generation in order to maximise the payment. The risk of this is not "low" as the consultation document suggests; ACE notes with alarm that no justification whatsoever has been given as to how the conclusion that the risk is 'low' was arrived at.

Over-generation due to poor energy management or intentional abuse of the RHI should not be supported and incentivised through payment. Given the limited capacity within ofgem to monitor the metered generators, another balance must be put in place to prevent taxpayers (or energy customers) paying highly for wasted heat. Metered installations must have their heat demand calculated to provide a deemed need, around which figure an upper and lower limit must be set within which metered measurements are allowed. The Carbon Trust already provides an audit service to organisations that could be utilised to provide the deemed range. If metered measurements from an installation are continually at the upper limit or even above the deemed range, then an audit and investigation by ofgem must be triggered, and payments adjusted accordingly.

**Smaller installations**

As outlined above in response to Question 10, RHI payments for smaller installations should be based on deemed need only after all cost optimal energy efficiency measures have been assumed, which should include double glazing, solid wall insulation and under floor insulation where appropriate.

**Q13: Do you agree that a process based on SAP or SBEM for existing buildings or the Energy Performance Certificate for new buildings is the best way of implementing deeming? Do you have any suggestions on the details of how this assessment process should work?**

**Yes/No**

**Comments: No comment**

[9] CLG (2009) *Sustainable New Homes – The Road to Zero Carbon. Consultation on the Code for Sustainable Homes and the Energy Efficiency standard for Zero Carbon Homes*. Available at: http://www.communities.gov.uk/documents/planningandbuilding/pdf/1415525.pdf

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| **Q14: Do you agree that at the large scale/in process heating, where we propose metering, the risk of metering resulting in a perverse incentive to overgenerate is low? How could we reduce it further within the constraints of using metering, to ensure only useful heat is compensated? Do you see any practical difficulties concerning use of heat meters (such as on availability, reliability or cost of heat meters) and, if so, how should we address them?** |
| **No**<br><br>**Comments:**<br>ACE can see no evidence in the consultation document to explain why the risk of overgeneration in the large-scale installations is "low". On the contrary, it would make good business sense to overgenerate as much as possible to maximise your return, and any effective profit-orientated business will ensure they do just that.<br><br>As outlined above in response to Question 12 ACE calls for metered installations to have their heat demand calculated to provide a deemed need, around which figure an upper and lower limit must be set with which metered measurements are allowed. If metered measurements from an installation are continually at the upper limit or even above the deemed range, then an audit by ofgem should be triggered, and payments adjusted accordingly. |
| **Q15: What is the right incentive level required to bring forward renewable heat from large-scale biomass including in the form of CHP while minimising costs to consumers?** |
| **Comments: No comment** |
| **Q16: What is the right incentive level required to bring forward renewable heat from biogas combustion above 200 kW including in the form of CHP while minimising costs to consumers? Do you have any data or evidence supporting your view?** |
| **Comments: No comment** |
| **Q17: Do you have any data or evidence on the costs of air source heat pumps above 350 kW or solar thermal above 100 kW?** |
| **Comments: No comment** |
| **Q18: Do you agree with the proposed approach to setting the RHI tariffs, including tariff structure and rates of return? Do you agree with the resulting tariff levels and lifetimes? If not, what alternatives would you prefer, and on the basis of what evidence?** |

**No**

**Comments:**

**Tariff calculation**

ACE questions why in calculating the difference between the costs of the renewable technology and the cost of conventional heat, efficient gas-fired generation has been used as the conventional heat source. As outlined in our response to Question 1, the RHI must **not** incentivise the replacement of efficient gas fired boilers with the renewable technologies supported under the RHI as the main heating system, particularly if these technologies lower the energy rating (eg SAP or SBEM) of the building. **ACE calls for a simple requirement that prevents the RHI being applied to properties for the replacement of their main heating system that are connected the gas network.**

This must be accompanied by a change in the way the tariffs are calculated. The 12% ROI must be calculated by comparing the overall costs with a new electric or oil system, which are the systems that would be notionally replaced. This would reduce the costs of the programme and offer much greater carbon savings and fuel poverty benefits.

**Technologies**

ACE is seriously concerned that Government is promoting certain heat generating technologies over others and by doing so will distort the market for these technologies. ACE recognises that in choosing certain technologies for inclusion in the RHI, Government is creating a market for selected technologies over others and accepts that, in order to ensure robustness in the programme, the RHI can only make eligible a number of proven technologies.

What ACE does not find acceptable is the further manipulation of the market by attributing different rates of return to one technology over another. The rate of return for solar thermal is half that of other technologies at 6%. This is justified in the consultation by a statement that "solar energy technologies are relatively well known and they present relatively low installation challenges" (p39).

Taking the first of these justifications, ACE would ask on what evidence DECC makes the judgement that solar thermal is a more mature or well know technology. We are given no justification for this statement. More importantly, solar thermal technology has in no way reached mass market status or achieved its potential in terms of the number of buildings that could benefit from the technology. Therefore ACE sees absolutely no reason to under-incentivise this technology and to influence a building owner's decisions on what is the most appropriate technology.

On the second of the two justifications, that there are relatively low challenges associated with installation, these considerations have already been factored in to the tariff setting methodology. The consultation outlines that both financial and non-financial impacts of choosing a renewable heating system over a conventional one have been incorporated into the tariff, so these non-financial installation challenges have already been considered and should not be additionally accounted for by a reduction in return.

Government's policy has never been to interfere with the market for technologies, as is evidenced by the approach taken to CERT (making a wide range of technologies available and recommended only on their carbon saving qualities). ACE strongly urges Government to stop 'picking winners' through the design of the RHI, which favours one technology and associated industry over another.

**Q19: Do you agree with our proposed approach on mixed fuels? Do you agree with our proposal that, at larger sites, with the exception of EfW, RHI will require the use of a dedicated boiler for the renewable fuel? Where our approach is to follow the Renewables Obligation, do any aspects need to be adapted to account for the different situation of renewable heat?**

**Yes/ No**

**Comments: No comment**

**Q20: Do you believe that we should provide an uplift for renewable district heating?**

**No**

**Comments:**

ACE strongly urges caution on any further increases to the cost of the programme that would result from the introduction of uplifts. As outlined in our response to Question 1, the RHI is already a very expensive programme and one that does not necessarily pose the most cost effective way of saving carbon (Jo Greasley, DECC, 19th March 2010). It is also a programme that will be paid for by individuals, either through taxation or regressively through energy bills. Every additional cost placed onto energy bills exacerbates the enormous problem of fuel poverty that the UK is struggling to tackle.

Finally the RHI is a policy that will benefit the few – an estimated 1 in 14 homes and around 1 in 16 businesses[10] - at the cost of the many. The equity issues associated with the payment of very higher revenues to a few, funded by those who potentially cannot afford it (if the programme is funded through energy bills) cannot be overlooked.

**Q21: Do you believe that an uplift should be available to all eligible district heating networks, or that eligibility should be determined on a case-by-case basis depending on whether a network contributes to the objective of connecting hard-to-treat properties (and, if the latter, how should we determine this for each case)? Do you agree that situations of one or a small number of large external heat users should not be eligible for an uplift, and, if so, what should be the minimum eligibility requirement for an uplift**

[10] 1.7m installations are expected in the domestic sector (of around 24m households in Britain) and 144,000 installations are expected in the non domestic sector as a factor of the British 2.3m business (numbers of installations provided by Jo Greasley EEPH hosted consultation event on 19th March 2010)

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| **(expressed for instance as a minimum number of external customers)?** |
| ACE does not believe that any further costs should be placed on to the programme by way of uplifts; but if uplifts are introduced then it is essential that the heating networks are considered on a case by case basis, acknowledging the extent to which the installation helps improve hard to treat properties and those who are in or at risk of living in fuel poverty.<br><br>ACE also calls for close monitoring of district heating networks to ensure that they are maintained, repaired and operated efficiently to the benefit of the heat users. |
| **CHAPTER 4: THE RHI BEYOND 2011** |
| **Q22: Do you agree that RHI tariffs should be fully fixed (other than to correct for inflation) for the duration of any project's entitlement to RHI support? Do you agree that we should include bio-energy tariffs, including the fuel part of those tariffs, in such a grandfathering commitment?** |
| **Yes**<br><br>**Comments:** |
| **Q23: Do you agree with our proposal not to introduce degression from the outset of the scheme but consider the case at the first review?** |
| **Yes**<br><br>**Comments:** |
| **Q24: Do you agree with our proposed approach on innovative and emerging technologies?** |
| **Yes**<br><br>**Comments:**<br>As outlined in our response to Question 18, the RHI limits the growth of some emerging technologies whilst promoting the more recognised ones. Given these limits the RHI must be supported by investment in research and development, to ensure that emerging technologies are brought forward and that efficiency improvements are continually made to more mature technologies.<br><br>In line with the Renewables Obligation and the Feed in Tariff, the RHI should be subject to regular reviews when new technologies can be proposed for inclusion. |
| **Q25: Do you have any views on how we should encourage technology cost reductions through the RHI, particularly on solar thermal heat?** |

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| **Comments: No comment** |
| **Q26: Do you agree with our proposed approach to reviews, and the timing and scope of the initial review?** |
| **Yes**<br><br>**Comments:**<br><br>ACE welcomes the consistency of review timing across the RHI, RO and FIT as this will enable a read across of lessons and outcomes from the three programmes. ACE calls for the reviews to provide transparent and publicly available information on the costs, progress and impact of the programmes. |
| **Q27: Can you provide examples of situations that could be taken into consideration in determining criteria for an emergency review?** |
| **Comments:**<br><br>Any signal that the RHI is encouraging profligacy with heat use should trigger an emergency review. This could include an indication that metered installations are repeatedly reaching or exceeding the upper limit of their deemed need. |
| **CHAPTER 5: INTERACTION WITH OTHER POLICIES** |
| **Q28: Do you agree with our proposed approach to allow access to RHI support to new projects where installation completed after 15 July 2009, but not before? Do you have any evidence showing that in particular situations RHI support for installations existing before this date would be needed and justifiable?** |
| **Comments: Yes agree** |
| **CHAPTER 6: ADMINISTRATION** |
| **Q29: Are there any parts of the proposals set out in this consultation that in your view would allow for unacceptable abuse of RHI support, or other unintended consequences? If so, how could we tighten the rules while keeping the scheme workable, and avoiding an overly high administrative burden?** |
| **Yes**<br><br>**Comments:**<br>ACE has serious concerns about the proposed compliance and auditing system. There are no clear indications as to how ongoing maintenance, repair and efficient use of systems that are receiving payment will be ensured. At the consultation event on 19th March 2010, Jo Greasley, DECC revealed that enforcement of the RHI would be “light touch” and reliant on self-certification and auditing. No mention was made at the consultation event or in the |

consultation documentation of enforcement powers for structures such as local authorities which will have close contact with those installing particularly larger scale technologies.

As already outlined in responses to other questions in this consultation the following abuses may result from the current design of the programme:

- Profligate use and waste of generated heat from installations that have their RHI payments calculated on only metered data
- The installation of oversized heating system into an uninsulated (particularly solid walled) building
- Unacceptable impact on levels of fuel poverty through fuel bill rises as a result of the programme costs being charged back through energy bills
- The replacement of an efficient gas boiler with a renewable energy heating system that results in a lower energy (SAP/SBEM) rating for the building and much reduced carbon savings when compared to replacement of a non-net gas fuel

The RHI and its compliance enforcement mechanisms must be designed in order that all of the above possible (indeed probable) abuses are ensured against, otherwise this expensive programme will very easily be thrown into disrepute.

## ANNEX 3: CALL FOR EVIDENCE ON DISTRICT HEATING NETORKS

**Q30: Do you agree with our proposed overall approach to setting the level of the uplift? Can you provide evidence that would help us to determine the level of uplift? In particular:**

**Can you describe typical district heating networks that would be appropriate as reference networks, and what are their network costs, heat loads, and customer numbers and characteristics?**

**What proportion of the heat load of such networks is typically supplied to hard-to-treat properties? What proportion of the total network of the reference installation(s) supply heat to hard to treat properties?**

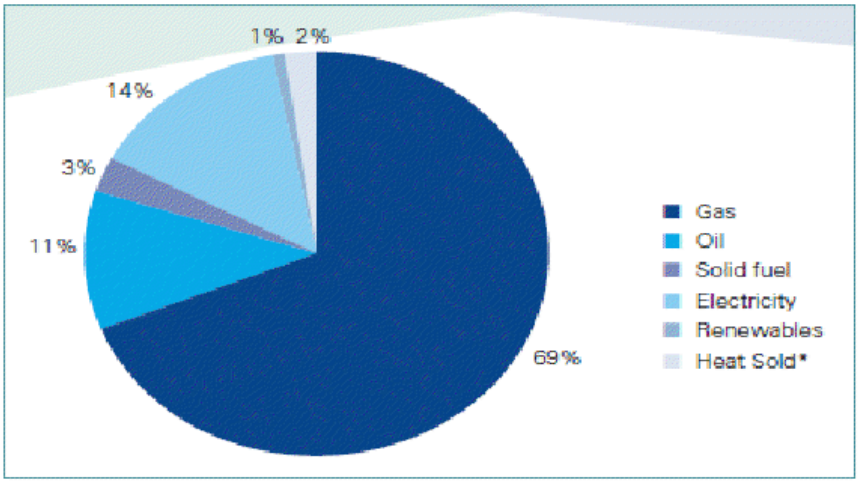
**Should we choose one reference network and determine one uplift (in p/kWh) applicable to all sizes of networks, or should there be several based on a number of differently sized reference networks?**

**Yes/No**
**Comments:**

# Appendix 1

## Renewable Heat Incentive

### Where does our heat currently come from?




Source: Jo Greasley, Head of Renewable Heat Incentive Team, DECC. Presentation: *Renewable Heat Incentive – Overview*. At the Energy Efficiency Partnership for Homes Consultation event 19th March 2010